FORM PTO-1390 (Modified) (REV 11-2000) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NUMBER: **112740-296**

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR): **09/980595**

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/DE00/01011	**April 3, 2000**	**April 30, 1999**

TITLE OF INVENTION

DATA EXCHANGE SYSTEM WITH A MOBILE UNIT FOR CONTROLLING CONSUMERS

APPLICANT(S) FOR DO/EO/US

Bernd Burchard, et al.

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include itens (5), (6), (9) and (24) indicated below.
4. ☒ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
   a. ☒ is attached hereto (required only if not communicated by the International Bureau).
   b. ☐ has been communicated by the International Bureau.
   c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
   a. ☒ is attached hereto.
   b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
   a. ☒ are attached hereto (required only if not communicated by the International Bureau).
   b. ☐ have been communicated by the International Bureau.
   c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
   d. ☐ have not been made and will not be made.
8. ☒ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).
11. ☒ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☒ A copy of the International Search Report (PCT/ISA/210).

Items 13 to 20 below concern document(s) or information included:

13. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☒ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☒ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
20. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
21. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
22. ☒ Certificate of Mailing by Express Mail
23. ☐ Other items or information:

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
09/980595	PCT/DE00/01011	112740-296

24. The following fees are submitted:.

BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) :

		CALCULATIONS PTO USE ONLY
☐	Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO	**$1040.00**
☒	International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO	**$890.00**
☐	International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO	**$740.00**
☐	International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4)	**$710.00**
☐	International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4)	**$100.00**

ENTER APPROPRIATE BASIC FEE AMOUNT =	**$890.00**	
Surcharge of **$130.00** for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (e)).	**$0.00**	

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	9 - 20 =	0	x $18.00	**$0.00**	
Independent claims	1 - 3 =	0	x $84.00	**$0.00**	
Multiple Dependent Claims **(check if applicable)**.			☐	**$0.00**	
TOTAL OF ABOVE CALCULATIONS =				**$890.00**	
☐ Applicant claims small entity status. See 37 CFR 1.27). The fees indicated above are reduced by 1/2.				**$0.00**	
SUBTOTAL =				**$890.00**	
Processing fee of **$130.00** for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (f)). +				**$0.00**	
TOTAL NATIONAL FEE =				**$890.00**	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) **(check if applicable).** ☐				**$0.00**	
TOTAL FEES ENCLOSED =				**$890.00**	
				Amount to be: refunded	$
				charged	$

a. ☒ A check in the amount of **$890.00** to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. _____ in the amount of _____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. **02-1818** A duplicate copy of this sheet is enclosed.

d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

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SIGNATURE

William E. Vaughan
NAME

39,056
REGISTRATION NUMBER

October 30, 2001
DATE

BOX PCT

IN THE UNITED STATES ELECTED/DESIGNATED OFFICE
OF THE UNITED STATES PATENT AND TRADEMARK OFFICE
UNDER THE PATENT COOPERATION TREATY-CHAPTER II

PRELIMINARY AMENDMENT

APPLICANT:	Bernd Burchard, et al.	DOCKET NO: 112740-296
SERIAL NO:		GROUP ART UNIT:
		EXAMINER:
INTERNATIONAL APPLICATION NO:		PCT/DE00/01011
INTERNATIONAL FILING DATE:		3 April 2000
INVENTION:		DATA EXCHANGE SYSTEM WITH A MOBILE COMPONENT TO CONTROL CONSUMERS

Assistant Commissioner for Patents,
Washington, D.C. 20231

Sir:

Please amend the above-identified International Application before entry into the National stage before the U.S. Patent and Trademark Office under 35 U.S.C. § 371 as follows:

In the Specification:

Please replace the Specification of the present application, including the Abstract, with the following Substitute Specification:

SPECIFICATION

TITLE OF INVENTION

DATA EXCHANGE SYSTEM WITH A
MOBILE COMPONENT TO CONTROL CONSUMERS

BACKGROUND OF THE INVENTION

The present invention relates to a data exchange system, in particular a mobile telephone system or home mobile telephone system for controlling devices or consumers.

A system to control a multiplicity of electrical consumers is described in the publication WO 99/09780. These consumers are accessible via intermediate actuators via an IP address. Furthermore, the use of an interface to the Internet, whereby consumers can be controlled, is known from the publication EP 0 838 768 A2.

The mobile telephone is being developed into a mass-market product. It is foreseeable that the mobile telephone will, in the future, become a standard device in daily life.

The CTS (Cellular Telephony System) is currently in the standardization phase. The CTS enables the use of a mobile telephone as a cordless telephone in the home on a home base station. The home base station serves as an interface between the mobile telephone and the fixed network and allows calls to be made from the mobile telephone via the fixed network.

Furthermore, the use of mobile telephones for remote control purposes in the home is also currently under discussion. Integration of an infrared interface into mobile telephones is currently envisaged, so that different devices in the home can be controlled with the aid of a mobile telephone via infrared control signals. Thus, mobile telephones can be used in as remote controls with a learning capability. However, the equipment of mobile telephones with an infrared interface is associated with the disadvantages that additional hardware outlay, an additional radiation line for the infrared LED and a direct line-of-sight contact between the corresponding mobile telephone and the devices which are to be remotely controlled are required. In addition, applications are already known in which mobile telephones are used in the home to control consumers. Thus, for example, a data exchange system implemented on the basis of a home mobile radio system is known in which a mobile telephone operated according to the DECT standard (Digital European Cordless Telephone) is used to control a television set, which also contains the base station of the mobile radio system.

SUMMARY OF THE INVENTION

An object of the present invention, therefore, is to provide a simple facility for controlling consumers via a mobile data exchange device, in particular via a mobile telephone.

The present invention is based on a data exchange system in which a mobile component is used to control a consumer. According to the present invention, the control commands are transmitted from the mobile component via an Internet interface to a control device. The data exchange system may be designed in the form of a home mobile radio system, so that a mobile telephone with an Internet interface is used as the mobile component.

Since plans already exist to equip high-end telephones with an Internet interface in the near future, no additional hardware is essentially required in a mobile telephone of this type for remote control of consumers. The present invention offers the particular advantage that devices from different manufacturers can communicate with one another on the basis of standard Internet data transmission.

Preferably, if a mobile telephone is used as the mobile component, this can be operated on a home base station as a cordless telephone. According to the present invention, different consumers which are to be remotely controlled are connected to this home base station, so that, via the home base station, remote control of these consumers is possible via any type of data connection.

Since the standard home base station is normally designed merely as a communications interface between the mobile telephone and a communications network, an additional control is required which, on the one hand, is controlled from the mobile telephone via the Internet interface of the mobile telephone and which, on the other hand, forwards the control commands accordingly via the data connection to the individual consumers or devices. The control, therefore, performs the function of a home server.

The home base station may, for example, be based on the GSM standard (Global System for Mobile Communication) or the UMTS standard (Universal Mobile Telecommunication System) and the CTS standard.

Furthermore, control of consumers via a mobile telephone offers the advantage that a system for identification and authentication of the user is already available for mobile telephones, so that this system can also be used for access restriction for various consumers or their functions.

Additional features and advantages of the present invention are described in, and will be apparent from, the following Detailed Description of the Invention and the Figures.

BRIEF DESCRIPTION OF THE FIGURES

Figure1 shows a schematic block diagram in accordance with an embodiment of the present invention.

Figure 2 shows a representation illustrating a hierarchical menu structure which can be used in the system shown in Figure 1 to control various consumers.

Figure 3 shows a variation of the system structure shown in Figure 1.

DETAILED DESCRIPTION OF THE INVENTION

Figure 1 schematically shows a home mobile telephone system according to an embodiment of the present invention. In general, the home mobile telephone system includes a mobile telephone 1, a home base station 2 which is connected via a connection or an interface 3 to a communications network, and a home server 4 which is connected to the home base station 2. The communications network may be a fixed telephone network, a satellite communications network, a radio network or, with the use of "power line technology", also a power network, or the like.

Preferably, the home mobile telephone system is designed according to the CTS standard in such a way that, with the aid of the home base station 2, a communications link can be set up between the mobile telephone 1 and the communications network. The home base station 2 therefore serves as a communications interface between the mobile telephone 1 and the communications

network, and enables the use of the mobile telephone 1 as a cordless telephone in the home.

The home server 4 serves as a control device to convert control commands transmitted by the mobile telephone 1 into a corresponding control of various consumers 5. For this purpose, the consumers 5 are connected via a data transmission line or path 9 to the home server 4. This may involve not only wired data transmission but also wireless data transmission (e.g., infrared signal transmission).

It is known that control commands can, in principle, be transmitted via the Internet (World Wide Web, WWW). Current Internet and Java developments are designed to network devices via the Internet and remotely control these devices with the aid of control commands transmitted via the Internet. It can be assumed that, in the near future, all high-end telephone devices will possess an Internet interface in order to access the Internet.

In the embodiment shown in Figure 1, the mobile telephone 1 is also equipped with an Internet interface, so that the control commands to control various consumers are transmitted by the mobile telephone in an Internet-compatible format. The WAP standard (Wireless Application Protocol) can be used for this purpose. The home server 4 connected to the home base station 2 is correspondingly equipped with a function to evaluate Internet control commands of this type in order to convert these Internet control commands into normal analog or digital control commands to control the various consumers. Via the home base station 2, normal Internet access is available via the fixed telephone network connection 3.

The consumers 5 connected to the data transmission path 9 may, in principle, involve any given home or office devices. Thus, for example, remote control of television sets, personal computers, hi-fi systems, video recorders, air-conditioning systems, heating devices, the like and combinations thereof is conceivable with the aid of the mobile telephone 1.

The individual consumers are preferably controlled via the data transmission path 9 in digital form, since digital signal transmission offers greater transmission reliability than analog signal transmission. The individual consumers 5 can, therefore, be controlled by the home server 4 in the form of digital control words, whereby the control words, depending on the control commands entered via the keypad 7 of the mobile telephone 1, contain device-specific or consumer-specific addresses in order to address the required consumers 5. Thus, each consumer 5 is equipped with a corresponding digital data interface which monitors the control words present on the data transmission path 9 for the occurrence of its own address and converts the control commands accordingly if it is itself addressed.

The data transmission path 9 is preferably designed as two-way, so that the different consumers 5 can be not only controlled, but also monitored (i.e., status information relating to the individual consumers 5 also can be retrieved from the mobile telephone 1). For example, it can thus be determined whether a specific television set is switched on or not. The return messages from the home base station 2 to the mobile telephone 1 are likewise preferably transmitted via the Internet interface.

Normal communication between the home base station 2 and the mobile telephone 1 can be carried out according to any given mobile radio standard, such as GSM, DECT (Digital European Cordless Telephone) or Bluetooth, or also via infrared transmission. The use of dual-mode devices (e.g., DECT/GSM) is similarly conceivable. In addition, the control commands also can be transmitted from the mobile telephone to the home base station 2 or to the home server 4 connected thereto in a different frequency band and with a shorter range than in normal call data transfer.

The different consumers 5 can be controlled from the mobile telephone 1 via a hierarchical menu structure, as shown in Figure 2. This menu structure may be implemented on the mobile telephone 1 or may be offered to the mobile telephone 1 by the home server 4. Once the user has selected the control menu, the first menu shown in Figure 2, for example, is presented on a display unit 8 of the mobile

telephone 1. With the aid of this menu, the user can, preferably via the keypad 7 or a different input medium, make a preselection concerning the device or consumer 5 which is to be controlled. If a television set (TV) has been selected as the device to be controlled, the second menu shown in Figure 2, for example, is presented on the display unit 8, via which menu the required television program can be selected. Following the selection of a television program, a further menu can be presented, with which, for example, as shown in Figure 2, the volume or brightness or the like can be set.

An advantage in the remote control of consumers 5 with the aid of a mobile telephone 1 is that a system for identifying and authenticating the user is already provided for mobile telephones. Thus, GSM mobile telephones 1 can only be operated with "SIM cards" 10 (Subscriber Identification Module), which are inserted into the mobile telephone 1 and which contain identification information relating to the relevant user which subsequently can be checked in order to release the mobile telephone 1 for the authorized user only. User authentication in the mobile telephones 1 is becoming increasingly reliable. Fingerprint recognition, for example, is also currently under discussion. In addition, identification through voice recognition is also possible.

The above-mentioned identification and authentication options for mobile telephones 1 can be used in the context of the present invention in order to selectively release only specific consumers or devices 5 or corresponding functions of the consumers for the relevant user. If the present invention is used in the office domain, it is possible, for example, following user identification, to determine whether this user, in controlling a personal computer, is even authorized to switch it on. If not, access is denied. Access authorization can be checked in both the mobile telephone 1 and the home base station 2 or in the home server 4. Similarly, with the aid of the identification options of the mobile telephone 1, only specific functions of the relevant controlled device 5 can be protected against unauthorized access. Thus, for example, specific television programs can be released in this way for specific users or can be blocked (e.g., for children).

Due to the increasing computing power of available computer components and increasing integration, different system components can be functionally combined in one device. Thus, it is possible for the home server 4 and the home base station 2 to form one unit, as indicated in Figure 3.

A unit of this type may internally include one or more control units (CPUs) 11, one or more memories 12 to store software and/or data, ancillary units (e.g., MPEG decoders 13) and different interfaces 14, 15 for connection with other devices. These interfaces may, for example, be wire-based or wireless, or may support "power line technology". The use of dielectric conductors, such as optical fibers, is also conceivable. The interface 15 provides a connection to the data transmission path 9.

The functionality of a combination unit of this type may, for example, include the functionality of a television set, whereby the combination unit receives a television program via one of the interfaces 14 (e.g., via a television cable connection) and converts these data with the aid of the MPEG decoder 13 into an image data stream. One of the controlled consumers 5 may be designed as a digital monitor which receives the image data from the combination unit via the data transmission path 9 which is designed as an IEEE1394 bus.

In parallel with this television operation, processes run on the control unit(s) 11 which ensure wireless communication between the combination unit and the mobile component 1 shown in Figure 1. The mobile unit 1 may serve as a further input/output unit for the processes of the combination unit. The data entered via the mobile component 1 may be transmitted via one of the connected interfaces 14, 15 of the combination unit to other data-processing devices or consumers 5.

Although the present invention has been described with reference to specific embodiments, those of skill in the art will recognize that changes may be made thereto without departing from the spirit and scope of the invention as set forth in the hereafter appended claims.

ABSTRACT

A mobile component of a data exchange system, in particular a mobile telephone of a home mobile radio system, is equipped with an Internet interface in order to transmit control commands via the Internet interface to a control device in order to control one or more consumers, whereby the control device converts these control commands into a corresponding control of the required consumer.

In the Claims

On page 10, cancel line 1, and substitute the following left-hand justified heading therefor:

CLAIMS

Please cancel claims 1-9, without prejudice, and substitute the following claims therefor:

10. A data exchange system, comprising:

a mobile component; and

a control device for receiving control commands from the mobile component to control at least one consumer, converting the control commands into corresponding control signals and transmitting the control signals via a data transmission path to the consumer to be controlled;

wherein the mobile component further comprises an Internet interface to transmit control commands to the control device, the control device evaluating the control commands and converting the control commands into a corresponding control of the consumers connected to the data transmission path, and

wherein the mobile component further comprises an identification unit for supplying information to identify the user of the mobile component, at least one of the mobile component and the control device evaluating the identification information supplied by the identification unit in order to release at least one of access to the consumers connected to the data transmission path and individual functions of the consumers.

11. A data exchange system as claimed in claim 10, wherein the mobile component is a mobile telephone.

12. A data exchange system as claimed in claim 10, wherein the control device further comprises an interface device for creating a communications interface between the mobile component and a communications network.

13. A data exchange system as claimed in claim 12, wherein the control device is controlled by the mobile component in a different frequency range than a frequency range used for the transmission of communications information between the mobile component and the interface device.

14. A data exchange system as claimed in claim 10, wherein the control device, the data transmission path and the consumers to be controlled are accommodated in one housing unit.

15. A data exchange system as claimed in claim 10, wherein the data transmission path is a bus line via which a plurality of consumers can be controlled with the aid of the mobile component and the control device.

16. A data exchange system as claimed in claim 10, wherein the control device makes a status query relating to the consumers connected to the data transmission path with the aid of the mobile component.

17. A data exchange system as claimed in claim 10, wherein the consumers connected to the data transmission path can be controlled via a hierarchical menu structure which can be presented on a display unit of the mobile component when the control device is controlled by the mobile component.

18. A data exchange system as claimed in claim 10, wherein the mobile component and the control device transmit the control commands via the Internet interface of the mobile component in accordance with the WAP protocol.

REMARKS

The present amendment makes editorial changes and corrects typographical errors in the Specification, which includes the Abstract, in order to conform the Specification to the requirements of United States Patent Practice. No new matter is added thereby. Attached hereto is a marked-up version of the changes made to the Specification by the present amendment. The marked-up version is captioned "**Version With Markings To Show Changes Made**".

In addition, the present amendment cancels original claims 1-9 in favor of new claims 10-18. Claims 10-18 have been presented solely because the revisions by crossing-out and underlining which would have been necessary in claims 1-9 in order to present those claims in accordance with preferred United States Patent Practice would have been too extensive, and thus would have been too burdensome. The present amendment is intended for clarification purposes only and not for substantial reasons related to patentability pursuant to 35 U.S.C. §§101, 102, 103 or 112. Indeed, the cancellation of claims 1-9 does not constitute an intent on the part of the Applicant to surrender any of the subject matter of claims 1-9.

Early consideration on the merits is respectfully requested.

Respectfully submitted,

BELL, BOYD & LLOYD LLC

BY _____

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

The Specification of the present application, including the Abstract, has been amended as follows:

SPECIFICATION

~~Description~~

TITLE OF INVENTION

~~Data exchange system with a mobile component to control consumers~~

DATA EXCHANGE SYSTEM WITH A MOBILE COMPONENT TO CONTROL CONSUMERS

BACKGROUND OF THE INVENTION

The present invention relates to a data exchange system, in particular a mobile telephone system or home mobile telephone system ~~according to the preamble of claim 1~~ for controlling devices or consumers.

A system to control a multiplicity of electrical consumers is described in the publication WO 99/09780. These consumers are accessible via intermediate actuators ~~by means of~~ via an IP address. Furthermore, the use of an interface to the Internet, whereby consumers can be controlled, is known from the publication EP 0 838 768 A2.

The mobile telephone is being developed into a mass-market product. It is foreseeable that the mobile telephone will, in the future, become a standard device in daily life.

The CTS (Cellular Telephony System) is currently in the standardization phase. The CTS enables the use of a mobile telephone as a cordless telephone in the home on a home base station. The home base station serves as an interface between the mobile telephone and the fixed network and allows calls to be made from the mobile telephone via the fixed network.

Furthermore, the use of mobile telephones for remote control purposes in the home is also currently under discussion. Integration of an infrared interface into mobile telephones is currently envisaged, so that different devices in the home can

be controlled with the aid of a mobile telephone via infrared control signals. ~~In this case~~ Thus, mobile telephones can be used in ~~particular~~ as remote controls with a learning capability. However, the equipment of mobile telephones with an infrared interface is associated with the disadvantages that additional hardware outlay, an additional radiation line for the infrared LED and a direct line-of-sight contact between the corresponding mobile telephone and the devices which are to be remotely controlled are required. In addition, applications are already known in which mobile telephones are used in the home to control consumers. Thus, for example, a data exchange system implemented on the basis of a home mobile radio system is known in which a mobile telephone operated according to the DECT standard (Digital European Cordless Telephone) is used to control a television set, which also contains the base station of the mobile radio system.

SUMMARY OF THE INVENTION

~~The~~ An object of the present invention, therefore, is to provide a simple facility for controlling consumers via a mobile data exchange device, in particular via a mobile telephone.

~~This object is achieved according to the present invention by means of a data exchange system with the features of claim 1, which comprises a mobile component, in particular a mobile telephone. The subclaims define advantageous and preferred embodiments of the invention.~~

The present invention is based on a data exchange system ~~as described above,~~ in which a mobile component is used to control a consumer. According to the present invention, the control commands are transmitted from the mobile component via an Internet interface to a control device. The data exchange system may be designed ~~in particular~~ in the form of a home mobile radio system, so that a mobile telephone with an Internet interface is used as the mobile component.

Since plans already exist to equip high-end telephones with an Internet interface in the near future, no additional hardware is essentially required in a mobile telephone of this type for remote control of consumers. The present invention offers the particular advantage that devices from different manufacturers

can communicate with one another on the basis of standard Internet data transmission.

~~If~~ Preferably, if a mobile telephone is used as the mobile component, this can be operated on a home base station as a cordless telephone. According to the present invention, different consumers which are to be remotely controlled are connected to this home base station~~,~~ so that, via the home base station, remote control of these consumers is possible via any type of data connection.

Since the standard home base station is normally designed merely as a communications interface between the mobile telephone and a communications network, an additional control is required which, on the one hand, is controlled from the mobile telephone via the Internet interface of the mobile telephone and which, on the other hand, forwards the control commands accordingly via the data connection to the individual consumers or devices. The control, therefore, performs the function of a home server.

The home base station may, for example, be based on the GSM standard (Global System for Mobile Communication) or the UMTS standard (Universal Mobile Telecommunication System) and the CTS standard.

Furthermore, ~~C~~control of consumers via a mobile telephone ~~furthermore~~ offers the advantage that a system for identification and authentication of the user is already available for mobile telephones, so that this system can also be used for access restriction for various consumers or their functions.

Additional features and advantages of the present invention are described in, and will be apparent from, the following Detailed Description of the Invention and the Figures.

~~The present invention is explained below with reference to the drawing and a preferred embodiment, whereby it is assumed that the data exchange system according to the invention is designed in the form of a home mobile radio system. However, it must be noted that the invention can also be applied to other data exchange systems in which essentially any given mobile components can be used to control consumers.~~

BRIEF DESCRIPTION OF THE FIGURES

~~Fig.~~ Figure1 shows a schematic block diagram ~~of a preferred~~ in accordance with an embodiment of the present invention. ~~to explain the principle on which the invention is based,~~

~~Fig.~~ Figure 2 shows a representation ~~to explain~~ illustrating a hierarchical menu structure which can be used in the system shown in ~~Fig.~~ Figure 1 to control various consumers., ~~and~~

~~Fig.~~ Figure 3 shows a variation of the system structure shown in ~~Fig.~~ Figure 1.

DETAILED DESCRIPTION OF THE INVENTION

~~Fig.~~ Figure 1 schematically shows a home mobile telephone system according to an embodiment of the present invention. ~~This~~ In general, the home mobile telephone system ~~comprises~~ includes a mobile telephone 1, a home base station 2 which is connected via a connection or an interface 3 to a communications network, and a home server 4 which is connected to the home base station 2. The communications network may, ~~in particular,~~ be a fixed telephone network, a satellite communications network, a radio network or, with the use of "power line technology", also a power network., or the like.

~~The~~ Preferably, the home mobile telephone system is designed according to the CTS standard in such a way that, with the aid of the home base station 2, a communications link can be set up between the mobile telephone 1 and the communications network. The home base station 2 therefore serves as a communications interface between the mobile telephone 1 and the communications network, and enables the use of the mobile telephone 1 as a cordless telephone in the home.

The home server 4 serves as a control device to convert control commands transmitted by the mobile telephone 1 into a corresponding control of various consumers 5. For this purpose, the consumers 5 are connected via a data transmission line or path 9 to the home server 4. This may involve not only wired

data transmission but also wireless data transmission~~,~~ (e.g., infrared signal transmission).

It is known that control commands can, in principle, be transmitted via the Internet (World Wide Web, WWW). Current Internet and Java developments are designed to network devices via the Internet and remotely control these devices with the aid of control commands transmitted via the Internet. It can be assumed that, in the near future, all high-end telephone devices will possess an Internet interface in order to access the Internet.

In the embodiment shown in ~~Fig.~~ Figure 1, the mobile telephone 1 is ~~therefore~~ also equipped with an Internet interface, so that the control commands to control various consumers are transmitted by the mobile telephone in an Internet-compatible format. The WAP standard (Wireless Application Protocol) ~~in particular~~ can be used for this purpose. The home server 4 connected to the home base station 2 is correspondingly equipped with a function to evaluate Internet control commands of this type in order to convert these Internet control commands into normal analog or digital control commands to control the various consumers. Via the home base station 2, normal Internet access is available via the fixed telephone network connection 3.

The consumers 5 connected to the data transmission path 9 may, in principle, involve any given home or office devices. Thus, for example, remote control of television sets, personal computers, hi-fi systems, video recorders, air-conditioning systems, heating devices, ~~etc.~~ the like and combinations thereof is conceivable with the aid of the mobile telephone 1.

The individual consumers are preferably controlled via the data transmission path 9 in digital form, since digital signal transmission offers greater transmission reliability than analog signal transmission. The individual consumers 5 can, therefore, be controlled by the home server 4 in the form of digital control words, whereby the control words, ~~in particular~~ depending on the control commands entered via the keypad 7 of the mobile telephone 1, contain device-specific or consumer-specific addresses in order to address the required consumers 5. ~~In this~~

~~case~~ Thus, each consumer 5 is equipped with a corresponding digital data interface which monitors the control words present on the data transmission path 9 for the occurrence of its own address and converts the control commands accordingly if it is itself addressed.

The data transmission path 9 is preferably designed as two-way, so that the different consumers 5 can be not only controlled, but also monitored~~,~~ (i.e.~~,~~ status information relating to the individual consumers 5 ~~can~~ also can be retrieved from the mobile telephone 1.) For example, it can thus be determined whether a specific television set is switched on or not. The return messages from the home base station 2 to the mobile telephone 1 are likewise preferably transmitted via the Internet interface.

Normal communication between the home base station 2 and the mobile telephone 1 can ~~essentially~~ be carried out according to any given mobile radio standard, such as GSM, DECT (Digital European Cordless Telephone) or Bluetooth, or also via infrared transmission. The use of dual-mode devices (e.g.~~,~~ DECT/GSM) is similarly conceivable. In addition, the control commands ~~can~~ also can be transmitted from the mobile telephone to the home base station 2 or to the home server 4 connected thereto in a different frequency band and with a shorter range than in normal call data transfer.

The different consumers 5 can ~~advantageously~~ be controlled from the mobile telephone 1 via a hierarchical menu structure, as shown ~~by way of example~~ in ~~Fig.~~ Figure 2. This menu structure may be implemented on the mobile telephone 1 or may be offered to the mobile telephone 1 by the home server 4. Once the user has selected the control menu, the first menu shown in ~~Fig.~~ Figure 2, for example, is presented on a display unit 8 of the mobile telephone 1. With the aid of this menu, the user can, preferably via the keypad 7 or a different input medium, make a preselection concerning the device or consumer 5 which is to be controlled. If a television set (TV) has been selected as the device to be controlled, the second menu shown in ~~Fig.~~ Figure 2, for example, is presented on the display unit 8, via which menu the required television program can be selected. Following the

selection of a television program, a further menu can be presented, with which, for example, as shown in ~~Fig.~~ Figure 2, the volume or brightness or the like can be set~~, etc~~.

~~A~~ An ~~particular~~ advantage in the remote control of consumers 5 with the aid of a mobile telephone 1 is that a system for identifying and authenticating the user is already provided for mobile telephones. Thus, GSM mobile telephones 1 can only be operated with "SIM cards" 10 (Subscriber Identification Module), which are inserted into the mobile telephone 1 and which contain identification information relating to the relevant user which ~~can~~ subsequently can be checked in order to release the mobile telephone 1 for the authorized user only. User authentication in the mobile telephones 1 is becoming increasingly reliable. Fingerprint recognition, for example, is also currently under discussion. In addition, identification through voice recognition is also possible.

The above-mentioned identification and authentication options for mobile telephones 1 can ~~advantageously~~ be used in the context of the present invention in order to selectively release only specific consumers or devices 5 or corresponding functions of the consumers for the relevant user. If the present invention is used in the office domain, it is ~~thus~~ possible, for example, following user identification, to determine whether this user, in controlling a personal computer, is even authorized to switch it on. If not, access is denied. Access authorization can be checked in both the mobile telephone 1 and the home base station 2 or in the home server 4. Similarly, with the aid of the identification options of the mobile telephone 1, only specific functions of the relevant controlled device 5 can be protected against unauthorized access. Thus, for example, specific television programs can be released in this way for specific users or can be blocked (e.g., for children).

Due to the increasing computing power of available computer components and increasing integration, different system components can be functionally combined in one device. ~~In particular~~ Thus, it is possible for the home server 4 and the home base station 2 to form one unit, as indicated in ~~Fig.~~ Figure 3.

A unit of this type may internally ~~comprise~~ include one or more control units (CPUs) 11, one or more memories 12 to store software and/or data, ancillary units (e.g., MPEG decoders 13) and different interfaces 14, 15 for connection with other devices. These interfaces may, for example, be wire-based or wireless, or may support "power line technology". The use of dielectric conductors, such as optical fibers, is also conceivable. The interface 15 provides a connection to the data transmission path 9.

The functionality of a combination unit of this type may, for example, ~~comprise~~ include the functionality of a television set. ~~In this case~~, whereby the combination unit receives a television program via one of the interfaces 14 (e.g., via a television cable connection) and converts these data with the aid of the MPEG decoder 13 into an image data stream. One of the controlled consumers 5 may be designed as a digital monitor which receives the image data from the combination unit via the data transmission path 9 which is designed as an IEEE1394 bus.

In parallel with this television operation, processes run on the control unit(s) 11 which ensure wireless communication between the combination unit and the mobile component 1 shown in ~~Fig.~~Figure 1. The mobile unit 1 may serve as a further input/output unit for the processes of the combination unit. The data entered via the mobile component 1 may be transmitted via one of the connected interfaces 14, 15 of the combination unit to other data-processing devices or consumers 5.

Although the present invention has been described with reference to specific embodiments, those of skill in the art will recognize that changes may be made thereto without departing from the spirit and scope of the invention as set forth in the hereafter appended claims.

~~Abstract~~

ABSTRACT

~~Data exchange system with a mobile component to control consumers~~

A mobile component ~~(1)~~ of a data exchange system, in particular a mobile telephone of a home mobile radio system, is equipped with an Internet interface in order to transmit control commands via the Internet interface to a control device ~~(2, 4)~~ in order to control one or more consumers, whereby ~~(5). The~~ the control device ~~(2, 4)~~ converts these control commands into a corresponding control of the required consumer ~~(5)~~.

~~(Fig. 1)~~

Description

Data exchange system with a mobile component to control consumers

The present invention relates to a data exchange system, in particular a mobile telephone system or home mobile telephone system according to the preamble of claim 1 for controlling devices or consumers.

A system to control a multiplicity of electrical consumers is described in the publication WO 99/09780. These consumers are accessible via intermediate actuators by means of an IP address. Furthermore, the use of an interface to the Internet, whereby consumers can be controlled, is known from the publication EP 0 838 768 A2.

The mobile telephone is being developed into a mass-market product. It is foreseeable that the mobile telephone will in future become a standard device in daily life.

The CTS (Cellular Telephony System) is currently in the standardization phase. The CTS enables the use of a mobile telephone as a cordless telephone in the home on a home base station. The home base station serves as an interface between the mobile telephone and the fixed network and allows calls to be made from the mobile telephone via the fixed network.

Furthermore, the use of mobile telephones for remote control purposes in the home is also currently under discussion. Integration of an infrared interface into mobile telephones is currently envisaged, so that

different devices in the home can be controlled with the aid of a mobile telephone via infrared control signals. In this case, mobile telephones can be used in particular as remote controls with a learning capability. However, the equipment of mobile telephones with an infrared interface is associated with the disadvantages that additional hardware outlay, an additional radiation line for the infrared LED and a direct line-of-sight contact between the corresponding mobile telephone and the devices which are to be remotely controlled are required.

In addition, applications are already known in which mobile telephones are used in the home to control consumers. Thus, for example, a data exchange system implemented on the basis of a home mobile radio system is known in which a mobile telephone operated according to the DECT standard (Digital European Cordless Telephone) is used to control a television set, which also contains the base station of the mobile radio system.

The object of the present invention is to provide a simple facility for controlling consumers via a mobile data exchange device, in particular via a mobile telephone.

This object is achieved according to the present invention by means of a data exchange system with the features of claim 1, which comprises a mobile component, in particular a mobile telephone. The subclaims define advantageous and preferred embodiments of the invention.

The present invention is based on a data exchange system as described above, in which a mobile component is used to control a consumer. According to the invention, the control commands are transmitted from the mobile component via an Internet interface to a control device. The data exchange system may be designed in particular in the form of a home mobile radio system, so that a mobile telephone with an Internet interface is used as the mobile component.

Since plans already exist to equip high-end telephones with an Internet interface in the near future, no additional hardware is essentially required in a mobile telephone of this type for remote control of consumers. The invention offers the particular advantage that devices

from different manufacturers can communicate with one another on the basis of standard Internet data transmission.

If a mobile telephone is used as the mobile component, this can be operated on a home base station as a cordless telephone. According to the invention, different consumers which are to be remotely controlled are connected to this home base station, so that, via the home base station, remote control of these consumers is possible via any type of data connection.

Since the standard home base station is normally designed merely as a communications interface between the mobile telephone and a communications network, an additional control is required which, on the one hand, is controlled from the mobile telephone via the Internet interface of the mobile telephone and which, on the other hand, forwards the control commands accordingly via the data connection to the individual consumers or devices. The control therefore performs the function of a home server.

The home base station may, for example, be based on the GSM standard (Global System for Mobile Communication) or the UMTS standard (Universal Mobile Telecommunication System) and the CTS standard.

Control of consumers via a mobile telephone furthermore offers the advantage that a system for identification and authentication of the user is already available for mobile telephones, so that this system can also be used for access restriction for various consumers or their functions.

The present invention is explained below with reference to the drawing and a preferred embodiment, whereby it is assumed that the data exchange system according to

the invention is designed in the form

of a home mobile radio system. However, it must be noted that the invention can also be applied to other data exchange systems in which essentially any given mobile components can be used to control consumers.

Fig. 1 shows a schematic block diagram of a preferred embodiment of the invention to explain the principle on which the invention is based,

Fig. 2 shows a representation to explain a hierarchical menu structure which can be used in the system shown in Fig. 1 to control various consumers, and

Fig. 3 shows a variation of the system structure shown in Fig. 1.

Fig. 1 schematically shows a home mobile telephone system according to the present invention. This home mobile telephone system comprises a mobile telephone 1, a home base station 2 which is connected via a connection or an interface 3 to a communications network, and a home server 4 which is connected to the home base station 2. The communications network may, in particular, be a fixed telephone network, a satellite communications network, a radio network or, with the use of "power line technology", also a power network.

The home mobile telephone system is designed according to the CTS standard in such a way that, with the aid of the home base station 2, a communications link can be set up between the mobile telephone 1 and the communications network. The home base station 2 therefore serves as a communications interface between the mobile telephone 1 and the communications network, and enables the use of the mobile telephone 1 as a cordless telephone in the home.

The home server 4 serves as a control device to convert control commands transmitted by the mobile telephone 1 into a corresponding control of various consumers 5. For this purpose, the consumers 5 are connected via a data transmission line or path 9 to the home server 4. This may involve not only wired data transmission but also wireless data transmission, e.g. infrared signal transmission.

It is known that control commands can in principle be transmitted via the Internet (World Wide Web, WWW). Current Internet and Java developments are designed to network devices via the Internet and remotely control these devices with the aid of control commands transmitted via the Internet. It can be assumed that, in the near future, all high-end telephone devices will possess an Internet interface in order to access the Internet.

In the embodiment shown in Fig. 1, the mobile telephone 1 is therefore also equipped with an Internet interface, so that the control commands to control various consumers are transmitted by the mobile telephone in an Internet-compatible format. The WAP standard (Wireless Application Protocol) in particular can be used for this purpose. The home server 4 connected to the home base station 2 is correspondingly equipped with a function to evaluate Internet control commands of this type in order to convert these Internet control commands into normal analog or digital control commands to control the various consumers. Via the home base station 2, normal Internet access is available via the fixed telephone network connection 3.

The consumers 5 connected to the data transmission path 9 may, in principle, involve any given home or office devices. Thus,

for example, remote control of television sets, personal computers, hi-fi systems, video recorders, air-conditioning systems, heating devices, etc. is conceivable with the aid of the mobile telephone 1.

The individual consumers are preferably controlled via the data transmission path 9 in digital form, since digital signal transmission offers greater transmission reliability than analog signal transmission. The individual consumers 5 can therefore be controlled by the home server 4 in the form of digital control words, whereby the control words, in particular depending on the control commands entered via the keypad 7 of the mobile telephone 1, contain device-specific or consumer-specific addresses in order to address the required consumers 5. In this case, each consumer 5 is equipped with a corresponding digital data interface which monitors the control words present on the data transmission path 9 for the occurrence of its own address and converts the control commands accordingly if it is itself addressed.

The data transmission path 9 is preferably designed as two-way, so that the different consumers 5 can be not only controlled, but also monitored, i.e. status information relating to the individual consumers 5 can also be retrieved from the mobile telephone 1. For example, it can thus be determined whether a specific television set is switched on or not. The return messages from the home base station 2 to the mobile telephone 1 are likewise preferably transmitted via the Internet interface.

Normal communication between the home base station 2 and the mobile telephone 1 can essentially be carried out according to any given mobile radio standard, such as GSM, DECT (Digital European Cordless Telephone) or Bluetooth, or also via

infrared transmission. The use of dual-mode devices (e.g. DECT/GSM) is similarly conceivable. In addition, the control commands can also be transmitted from the mobile telephone to the home base station 2 or to the home server 4 connected thereto in a different frequency band and with a shorter range than in normal call data transfer.

The different consumers 5 can advantageously be controlled from the mobile telephone 1 via a hierarchical menu structure, as shown by way of example in Fig. 2. This menu structure may be implemented on the mobile telephone 1 or may be offered to the mobile telephone 1 by the home server 4. Once the user has selected the control menu, the first menu shown in Fig. 2, for example, is presented on a display unit 8 of the mobile telephone 1. With the aid of this menu, the user can, preferably via the keypad 7 or a different input medium, make a preselection concerning the device or consumer 5 which is to be controlled. If a television set (TV) has been selected as the device to be controlled, the second menu shown in Fig. 2, for example, is presented on the display unit 8, via which menu the required television program can be selected. Following the selection of a television program, a further menu can be presented, with which, for example, as shown in Fig. 2, the volume or brightness can be set, etc.

A particular advantage in the remote control of consumers 5 with the aid of a mobile telephone 1 is that a system for identifying and authenticating the user is already provided for mobile telephones. Thus, GSM mobile telephones 1 can only be operated with "SIM cards" 10 (Subscriber Identification Module), which are inserted into the mobile telephone 1 and which contain identification information relating to the relevant user which can subsequently be checked in order to

release the mobile telephone 1 for the authorized user only. User authentication in the mobile telephones 1 is becoming increasingly reliable. Fingerprint recognition, for example, is also currently under discussion. In addition, identification through voice recognition is also possible.

The abovementioned identification and authentication options for mobile telephones 1 can advantageously be used in the context of the present invention in order to selectively release only specific consumers or devices 5 or corresponding functions of the consumers for the relevant user. If the present invention is used in the office domain, it is thus possible, for example, following user identification, to determine whether this user, in controlling a personal computer, is even authorized to switch it on. If not, access is denied. Access authorization can be checked in both the mobile telephone 1 and the home base station 2 or in the home server 4. Similarly, with the aid of the identification options of the mobile telephone 1, only specific functions of the relevant controlled device 5 can be protected against unauthorized access. Thus, for example, specific television programs can be released in this way for specific users or can be blocked (e.g. for children).

Due to the increasing computing power of available computer components and increasing integration, different system components can be functionally combined in one device. In particular, it is possible for the home server 4 and the home base station 2 to form one unit, as indicated in Fig. 3.

A unit of this type may internally comprise one or more control units (CPUs) 11, one or more memories 12 to store software and/or data, ancillary units

e.g. MPEG decoders 13 and different interfaces 14, 15 for connection with other devices. These interfaces may, for example, be wire-based or wireless, or may support "power line technology". The use of dielectric conductors, such as optical fibers, is also conceivable. The interface 15 provides a connection to the data transmission path 9.

The functionality of a combination unit of this type may, for example, comprise the functionality of a television set. In this case, the combination unit receives a television program via one of the interfaces 14 (e.g. via a television cable connection) and converts these data with the aid of the MPEG decoder 13 into an image data stream. One of the controlled consumers 5 may be designed as a digital monitor which receives the image data from the combination unit via the data transmission path 9 which is designed as an IEEE1394 bus.

In parallel with this television operation, processes run on the control unit(s) 11 which ensure wireless communication between the combination unit and the mobile component 1 shown in Fig. 1. The mobile unit 1 may serve as a further input/output unit for the processes of the combination unit. The data entered via the mobile component 1 may be transmitted via one of the connected interfaces 14, 15 of the combination unit to other data-processing devices or consumers 5.

Claims

1. A data exchange system:
with a mobile component (1), and
with a control device (2, 4), which is designed in such a way that it receives control commands from the mobile component (1) to control at least one consumer (5), converts said control commands into corresponding control signals and transmits said control signals via a data transmission path (9) to the consumer (5) which is to be controlled,
characterized in that
the mobile component (1) has an Internet interface to transmit control commands to the control device (2, 4),
the control device (2, 4) is designed in such a way that it can evaluate control commands transmitted by the mobile component (1) via the Internet interface and can convert said control commands into a corresponding control of the consumers (5) connected to the data transmission path (9), and
in that the mobile component (1) has identification means (10) to identify the user of the mobile component (1), and the mobile component (1) and/or the control device (2, 4) are designed in such a way that the identification information supplied by the identification means (10) is evaluated in order to release access to the consumers (5) connected to the data transmission path (9) and/or individual functions of said consumers.

2. The data exchange system as claimed in claim 1, characterized in that
the mobile component (1) is a mobile telephone.

3. The data exchange system as claimed in claim 1 or 2, characterized in that

the control device comprises an interface device (2) as a communications interface between the mobile component (1) and a communications network (3).

4. The data exchange system as claimed in claim 3, characterized in that
the control device (2, 4) is controlled by the mobile component (1) in a different frequency range than that used for the transmission of communications information between the mobile component (1) and the interface device (2).

5. The data exchange system as claimed in one of the preceding claims,
characterized in that
the control device (2, 4), the data transmission path (9) and the consumers (5) which are to be controlled are accommodated in one housing unit.

6. The data exchange system as claimed in one of claims 1-5,
characterized in that
the data transmission path (9) is designed in the form of a bus line, via which a plurality of consumers (5) can be controlled with the aid of the mobile component (1) and the control device (2, 4).

7. The data exchange system as claimed in one of the preceding claims,
characterized in that
the control device (2, 4) is designed in such a way that a status query relating to the consumers (5) connected to the data transmission path (9) can be made via the control device (2, 4) with the aid of the mobile component (1).

8. The data exchange system as claimed in one of the preceding claims,
characterized in that

the consumers (5) connected to the data transmission path (9) can be controlled via a hierarchical menu structure which can be presented on a display unit (8) of the mobile component (1) when the control device (2, 4) is controlled by the mobile component (1).

9. The data exchange system as claimed in one of the preceding claims,
characterized in that
the mobile component (1) and the control device (2, 4) are designed in such a way that the control commands are transmitted via the Internet interface of the mobile component in accordance with the WAP protocol.

GR 99 P 1766

FIG 1

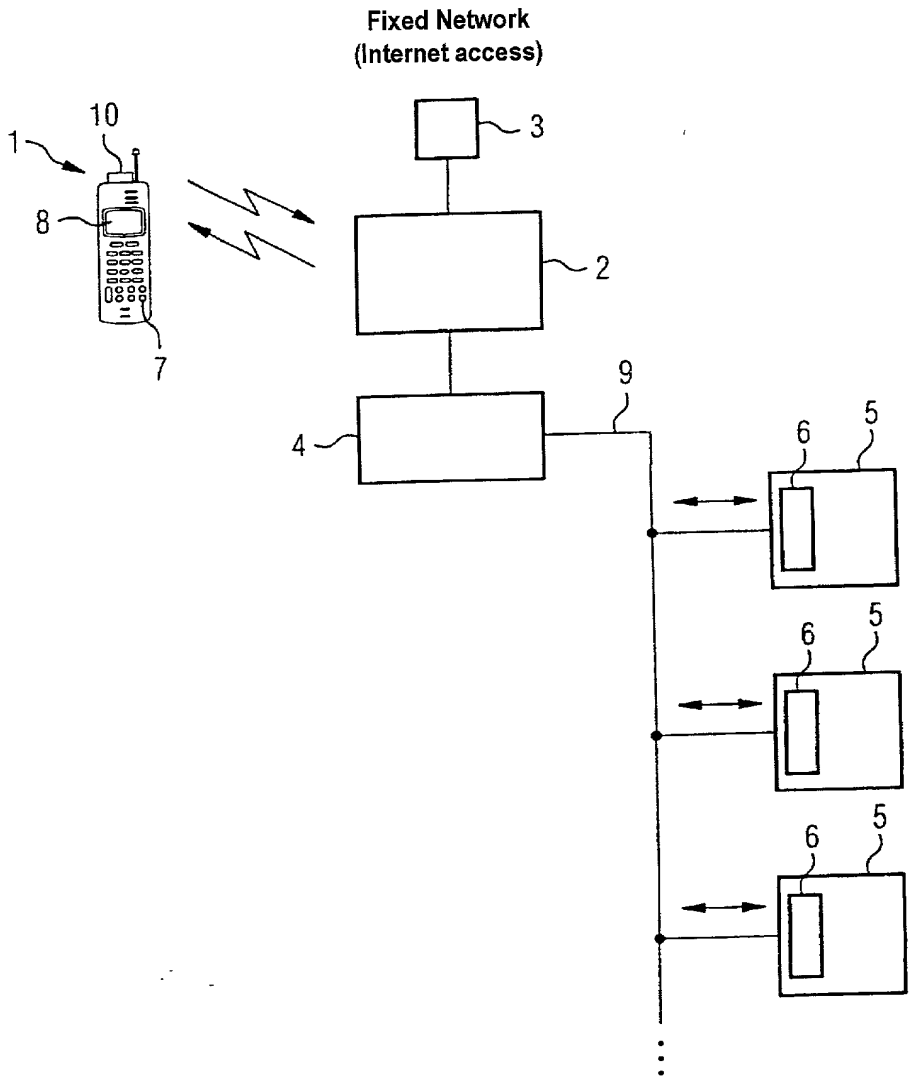


FIG 2

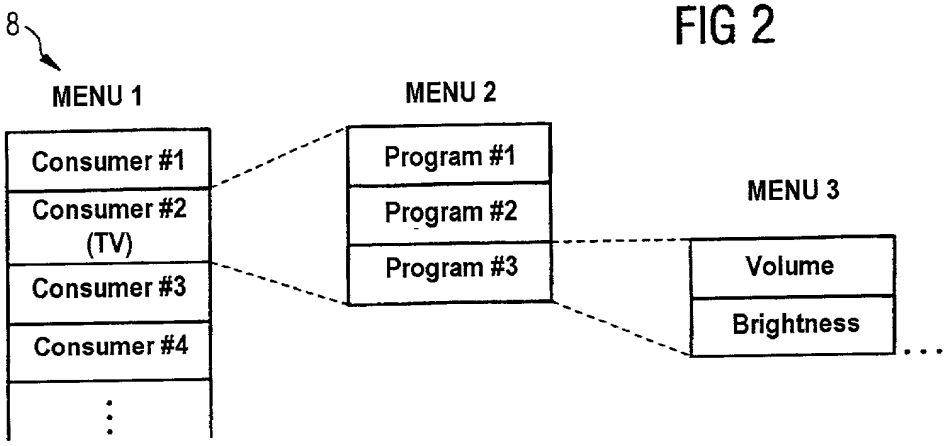
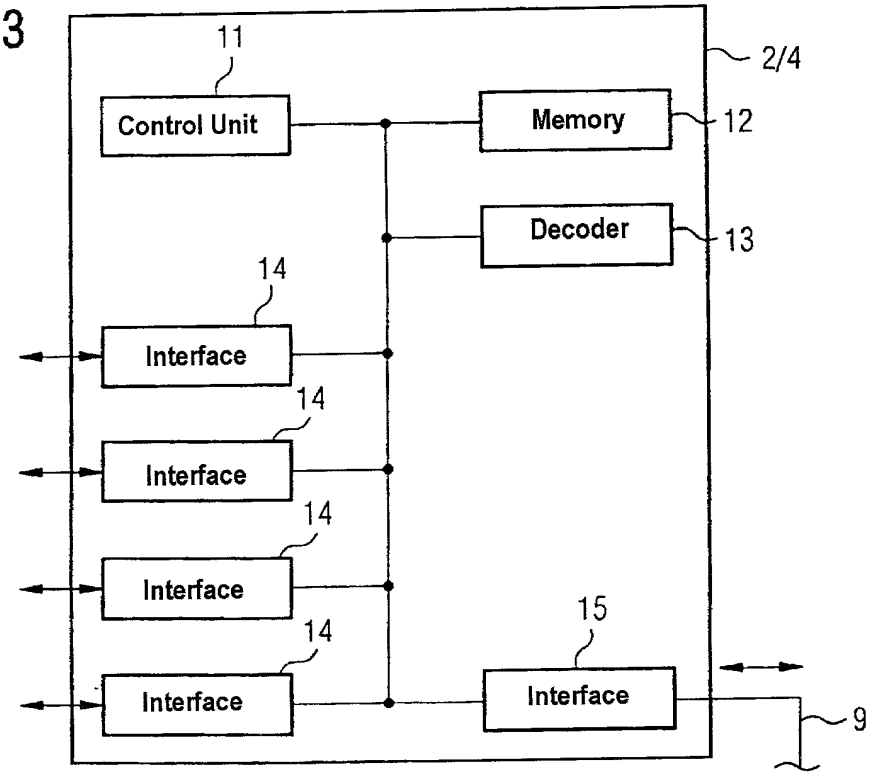

8
MENU 1
Consumer #1
Consumer #2
(TV)
Consumer #3
Consumer #4
MENU 2
Program #1
Program #2
Program #3
MENU 3
Volume
Brightness

FIG 3


11
Control Unit
Memory
12
Decoder
13
14
Interface
14
Interface
14
Interface
14
Interface
15
Interface
9
2/4

Declaration and Power of Attorney For Patent Application
Erklärung Für Patentanmeldungen Mit Vollmacht
German Language Declaration

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Datenaustauschsystem mit einem Mobilteil zur Ansteuerung von Verbrauchern

deren Beschreibung

(zutreffendes ankreuzen)
☐ hier beigefügt ist.
☒ am 03.04.2000 als
PCT internationale Anmeldung
PCT Anmeldungsnummer PCT/DE00/01011
eingereicht wurde und am _____
abgeändert wurde (falls tatsächlich abgeändert).

Ich bestätige hiermit, dass ich den Inhalt der obigen Patentanmeldung einschliesslich der Ansprüche durchgesehen und verstanden habe, die eventuell durch einen Zusatzantrag wie oben erwähnt abgeändert wurde.

Ich erkenne meine Pflicht zur Offenbarung irgendwelcher Informationen, die für die Prüfung der vorliegenden Anmeldung in Einklang mit Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) von Wichtigkeit sind, an.

Ich beanspruche hiermit ausländische Prioritätsvorteile gemäss Abschnitt 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 119 aller unten angegebenen Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde, und habe auch alle Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde nachstehend gekennzeichnet, die ein Anmeldedatum haben, das vor dem Anmeldedatum der Anmeldung liegt, für die Priorität beansprucht wird.

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Data exchange system with a mobile unit for controlling consumers

the specification of which

(check one)
☐ is attached hereto.
☒ was filed on 03.04.2000 as
PCT international application
PCT Application No. PCT/DE00/01011
and was amended on _____
(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

German Language Declaration

Prior foreign appplications
Priorität beansprucht

			Priority Claimed	
19919921.3	DE	30.04.1999	☒	☐
(Number)	(Country)	(Day Month Year Filed)	Yes	No
(Nummer)	(Land)	(Tag Monat Jahr eingereicht)	Ja	Nein
			☐	☐
(Number)	(Country)	(Day Month Year Filed)	Yes	No
(Nummer)	(Land)	(Tag Monat Jahr eingereicht)	Ja	Nein
			☐	☐
(Number)	(Country)	(Day Month Year Filed)	Yes	No
(Nummer)	(Land)	(Tag Monat Jahr eingereicht)	Ja	Nein

Ich beanspruche hiermit gemäss Absatz 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 120, den Vorzug aller unten aufgeführten Anmeldungen und falls der Gegenstand aus jedem Anspruch dieser Anmeldung nicht in einer früheren amerikanischen Patentanmeldung laut dem ersten Paragraphen des Absatzes 35 der Zivilprozeßordnung der Vereinigten Staaten, Paragraph 122 offenbart ist, erkenne ich gemäss Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) meine Pflicht zur Offenbarung von Informationen an, die zwischen dem Anmeldedatum der früheren Anmeldung und dem nationalen oder PCT internationalen Anmeldedatum dieser Anmeldung bekannt geworden sind.

I hereby claim the benefit under Title 35. United States Code. §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §122, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occured between the filing date of the prior application and the national or PCT international filing date of this application.

PCT/DE00/01011	03.04.2000	anhängig	pending
(Application Serial No.)	(Filing Date D, M, Y)	(Status)	(Status)
(Anmeldeseriennummer)	(Anmeldedatum T, M, J)	(patentiert, anhängig, aufgegeben)	(patented, pending, abandoned)
(Application Serial No.)	(Filing Date D,M,Y)	(Status)	(Status)
(Anmeldeseriennummer)	(Anmeldedatum T, M; J)	(patentiert, anhängig, aufgeben)	(patented, pending, abandoned)

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German Language Declaration

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POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

And I hereby appoint

Customer No.

Telefongespräche bitte richten an:
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(Supply similar information and signature for third and subsequent joint inventors).